

**ABSTRACT**

**A MEMORY ARBITER WITH GRACE AND CEILING PERIODS AND  
INTELLIGENT PAGE GATHERING LOGIC**

Embodiments of the present invention provide a memory arbiter for directing chipset and graphics traffic to system memory. Page consistency and priorities are used to optimize memory bandwidth utilization and guarantee latency to isochronous display requests. The arbiter also contains a mechanism to prevent CPU requests from starving lower priority requests. The memory arbiter thus provides a simple, easy to validate architecture that prevents the CPU from unfairly starving low priority agent and takes advantage of grace periods and memory page detection to optimize arbitration switches, thus increasing memory bandwidth utilization.

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